



BUILDING COMMUNITY THROUGH ENGAGEMENT

MWS 2022 Annual Report



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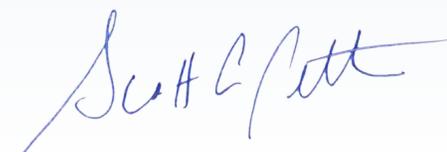
Dear Metro Water Friends and Colleagues,

As Metro Water Services has expanded our services and vision, we have continued to provide safe, clean, and reliable water and waste services while becoming more efficient, sustainable and resilient. Our reach and interaction with our customers, community, and city has also expanded. In this 2022 Annual Report we will share some of the ways we are **Building Community Through Engagement**.

Growing services and the expansion of many MWS facilities means that we play a larger role in Nashvillians day-to-day lives. This impact is felt when we get a glass of water, when we throw something away, and when we recycle a bottle. That is why we have worked to build community trust through transparent communications.

MWS has made great strides in our community engagement activities. Through innovative outreach practices, both virtual and in-person, we have strived to engage our community and share MWS' vision. Our commitment to creating long-term conversation with the community we share goes beyond press releases and bill messages. You can stay informed of our programs and more by liking and following **@NashvilleMWS** on Facebook, Instagram, Twitter and LinkedIn.

2022 has been **a year of engagement** and we are excited to share this with you in this year's Annual Report.


Scott A. Potter, Director

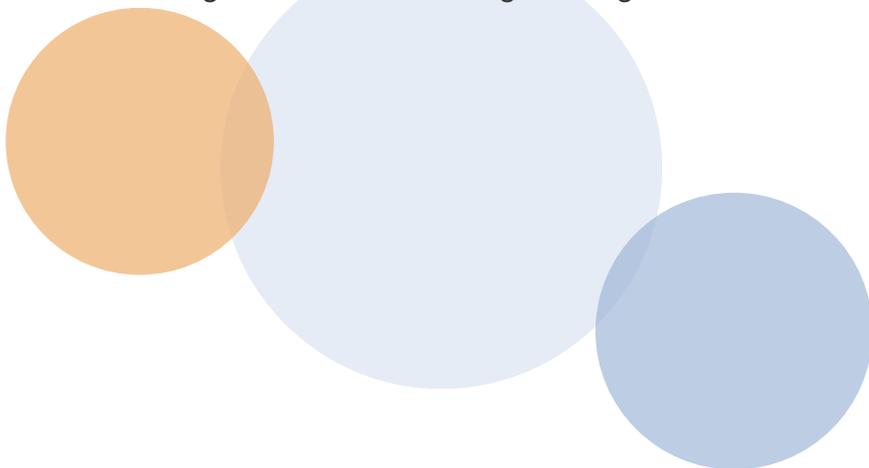


ABOUT US

Nashville has had a public water system supplied by the Cumberland River since 1833. The water treatment and distribution facilities have grown gradually and have been expanded and upgraded to meet the needs of the community, as well as to comply with increasingly stringent water quality and public safety laws and regulations.

Metro Water Services (MWS) provides public water (treatment and distribution) and wastewater (collection and treatment) services to customers located in Nashville/Davidson County and portions of five surrounding counties: Robertson, Rutherford, Sumner, Williamson, and Wilson. We provide stormwater and waste services for customers located in Nashville/Davidson County (526 square miles). The public drinking water system is also a vital part of the fire protection in the community. Along with these responsibilities, MWS also manages the Metro Nashville District Energy System (DES). DES delivers heat, ventilation, and air conditioning (HVAC) to buildings in the downtown corridor through a series of closed-circuit pipe systems carrying chilled water and steam.

MWS Water, Sewer and Stormwater are Metro enterprise operations, meaning that they are funded through the revenues generated from services provided to customers, and that the agency does not receive general tax funds to support their capital or operating and maintenance budget. Waste Services is separately funded through USD property taxes. MWS and Waste Services funds are maintained separately. DES activities are funded solely from fees/rates from the Customers of the system and revenues generated from the general government.



WATER

More than **3,000** miles of pressurized water mains, **35** reservoirs, **55** water pumping stations, and over **21,000** fire hydrants provide water supply and protection to approximately **216,000** customers (accounts). Finished drinking water is provided by **two** water treatment plants, R.L. Lawrence (Omohundro) and K.R. Harrington, each with rated capacities of **90 million** gallons per day (MGD).

STORM WATER

Stormwater services are provided for Nashville/Davidson County, covering **526** square miles. Nashville has the fourth largest municipal separate storm sewer system (MS4) in the nation with more than **50,000** inlets, **7,500** outfalls, and **882** miles of culverts.

WASTE WATER

Wastewater is collected by means of over **3,100** miles of sewer lines and **118** sewer pumping stations. Wastewater treatment is provided for approximately **220,000** customers (accounts) by **three** water reclamation facilities, Central, Dry Creek and Whites Creek. On average **177 million** gallons of sewage is treated per day.

WASTE SERVICES

Curbside trash and recycling services are provided to more than **142,000** curbside customers. Residents without curbside recycling services are able to use one of our **10** recycling drop-offs and all Davidson County residents have access to dispose of excess residential trash, recyclables, compostables, and other waste items at one of our **4** convenience centers.

DES

At the Metro Nashville DES facility, natural gas and electricity are used to produce steam and chilled water. The steam and chilled water is then distributed through a approximately **97,400** feet of underground pipes to **21** customers across **42** locations in the downtown area.

Director

Legislation

Deputy Director
of Operations

Communications

Customer
Services

Development
Services

Engineering

Human
Resources

Finance

Waste
Services

System
Services

Stormwater

Water
Operations

Wastewater
Operations





INTRODUCING INVOICE CLOUD

To improve and modernize customer interaction and payment efficiency, MWS partnered with InvoiceCloud, to create unique solutions for online bill payment services that allow customers to easily have the ability to pay their water bill.

The InvoiceCloud system offers multiple ways to securely utilize modern payment methods for their water bill. These new methods include:

- ***Via text***
- ***Apple Pay***
- ***Google Pay***
- ***Paypal***
- ***Venmo***

Previous payment methods such as automatic bank draft (ACH), self-serve kiosks, mail and phone payments remain available to customers.

MWS integrated these new convenient payment options to cater to the needs of Nashville's diverse, tech-savvy population. With the ability to sign-up for paperless billing or text notifications, the new InvoiceCloud portal allows for improved communications between MWS and our customers.

To take advantage of these secure payment options and other features such as AutoPay and scheduled payments, customers can enroll in the InvoiceCloud customer portal here: mwsonline.nashville.gov/app



3RD AVE IMPROVEMENTS

This summer, the 3rd Avenue corridor by Coffee Street saw some green enter its landscape. Metro Water Services (MWS), in conjunction with Metro Parks and WeGo Transit, celebrated multiple improvements to this corridor near Salemtown.

In coordination with input from the surrounding neighborhoods, the following improvements have been made to this busy corridor:

- A new recreation area provides residents a much-needed space to conveniently enjoy outdoor activities and **#DiscoverWater**
- An improved bus stop with a concrete pad and shelter provides WeGo riders a comfortable and safer boarding area
- Improved lighting and landscaping make the area along 3rd Ave. more inviting and increases visibility and safety
- Walkways and bike racks provide better and safer options for pedestrians and cyclists
- Fencing provides protection to those enjoying these new amenities

These improvements were made as a part of a larger capital infrastructure project to optimize operations at the Central Water Reclamation Facility related to the Environmental Protection Agency (EPA) Consent Decree.

Plans to connect the Greenway and to add an additional dog park amenity are also part of this project, which is expected to be complete in 2025.

To learn more about the coming changes and how the optimization of the Central Water Reclamation Facility ensures our commitment to meeting the needs of a growing city in a sustainable and environmentally friendly way, visit our virtual open house:

bit.ly/CWTPOptimization.

ADOPTION OF NEW FLOODMAPS

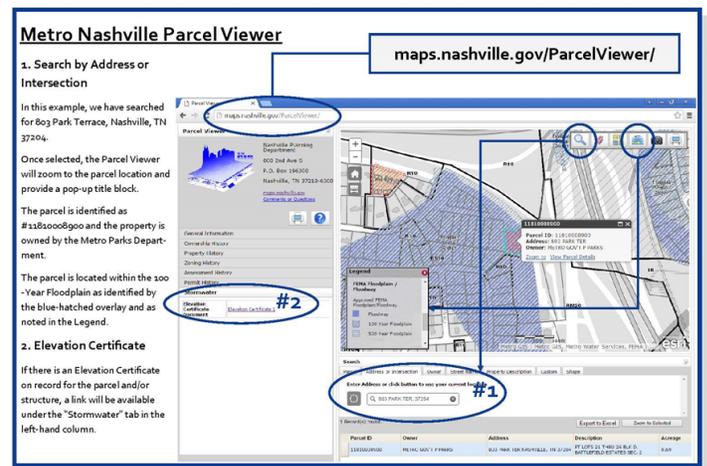
In Spring 2022, the Federal Emergency Management Agency (FEMA) placed new Flood Insurance Rate Maps (FIRMs) into effect for all parts of Davidson County. Updates to the maps began in 2018 as a joint effort between Metro Water Services, the U.S. Army Corps of Engineers and FEMA. The last time new maps were adopted was in 2017. The latest maps include various tributaries and streams across the county, with 60 new flood map panels published in total. (A flood map does not place a property in a floodplain, it just identifies the risk.)

The revised maps were released after completion of detailed studies on many smaller streams that previously were only covered by an approximate study or that were not mapped at all. The maps show all studied streams for which the 100 - year floodplain has been established and covers all areas of Metro including Belle Meade, Berry Hill, Forest Hills, Goodlettsville, Oak Hill, and Ridgeway.

The changes to the maps were not extreme and the revised flood elevations are generally within two feet (+/-) of the flood elevations from the previous study dated 2001. The new maps also provide information regarding previously unstudied streams giving us a better understanding of the risk and ability to make appropriate decisions.

As part of a continuous effort to improve our flood maps and flood data for Davidson County, Flood Insurance Rate Maps (FIRM) are regularly being updated, with another set of 18 panels expected to be released later this year.

It is important to be aware of the risk of flooding and realize that not all areas of Davidson County have been studied and mapped. Flash flooding can cause properties to flood even if they are not in a designated floodplain. Davidson County Flood maps can be viewed on the Metro Nashville Parcel Viewer.



MWS has participated in the National Flood Insurance Program (NFIP), which makes federally backed flood insurance available for all eligible buildings in Davidson County, since 1982. We also participate in the Community Rating System (CRS) Program, a voluntary program under the National Flood Insurance Program (NFIP) that recognizes and encourages community floodplain management activities exceeding the NFIP's minimum standards by providing discounts on premiums. By meeting high certification benchmarks, our Davidson County residents receive a 10% discount on their flood insurance premiums.



THE CHEW CREW

In May 2022, Metro Water Services entered a new 5-year contract with the Nashville Chew Crew to assist with vegetation control on the Metro Center Levee, which stretches from I-65 to Clarksville Pike just north of downtown Nashville.

Metro is required to manage the vegetation on the levee to meet inspection and maintenance requirements per the Army Corps of Engineers. Thick vegetation could cause vulnerabilities or conceal issues affecting the stability of the levee.

A flock of approximately **200** sheep including a combination of adults up to eight (8) years old and young lambs as young as two (2) - three (3) months old “work” along the levee within a temporary fence for months at a time. In keeping with MWS’s strict attention to safety and security, a trained guardian dog, Dolly, remains on site with the flock 24 hours a day.

The steep and uneven terrain of the levee has historically made vegetation control on the river side difficult and costly. The chew crew keeps the 3-mile-long levee cleared of brush and tall grasses for less than **\$80,000/year**. In addition to the cost savings, the use of grazing animals is safer, more environmentally friendly, and socially engaging. For more information regarding The Chew Crew, visit their website at:

www.nashvillechewcrew.com.

IMPROVING RECYCLING THROUGH OUTREACH AND EDUCATION

Recycling is one of the key services provided by Metro Water's Waste Services Division (Waste Services) to help Nashville manage waste materials more sustainably. With District 3 becoming newly annexed into the Metro Urban Services District, an additional **1,475** Metro residents began receiving trash and recycling collection services from Metro Waste Services beginning July 2022. Over the past fiscal year from July 1, 2021 – June 30, 2022 (FY22) Waste Services staff saw a significant improvement in this program with fewer non-recyclable items going into curbside recycling carts.

To measure the success of the recycling program, staff work with our contractor, WM, to conduct an annual waste audit that identifies the rate of contamination in our recycling.

Contamination is when materials that are not recyclable through our program end up in recycling carts and containers. For FY22, the program saw a drop in the contamination rate from **28.4%** to **21.6%**.



This is a significant improvement in the program and means that we are collecting cleaner material and more of what is being collected can be recycled. This improvement reflects the work Waste Services staff have done to educate the community about how to recycle right over the entire fiscal year. This includes the work of both operations staff as well as administrative staff.

Collection drivers are on the front lines of the program. They keep an eye out for contamination by not collecting carts if they noticeably contain non-recyclable material and educating residents as the opportunities arise. Customer service staff supports collection staff, helping residents understand why their cart may not have been collected and what they need to do to recycle right.



METRO NASHVILLE WASTE SERVICES

Waste Services staff also provide educational opportunities and resources for the public. During FY22, Waste Services hosted **28** events and programs reaching over **1,000** Nashvillians about how to recycle right including hosting webinars, workshops, and booths at neighborhood events. This team also manages the Nashville Waste and Recycling App which includes a robust searchable list of what can and cannot be recycled. Launched just prior to FY22, this app continues to be a valuable resource for residents to learn about recycling. To date, we've had over **66,000** searches of materials and over **233,000** first time visitors. To improve the learning experience on the app, staff developed the Get Rowdy Recycle Game

that was added in FY22, making recycling education interactive and fun.

To foster community leadership around recycling and reducing waste, Waste Services launched its first Zero Waste Leadership Program in June 2022. The program accepted **19** leaders who learned about a variety of waste issues including recycling and had the opportunity to tour the local recycling facility. These leaders have taken their learnings back to their neighborhoods and communities and work to help their friends, family, and neighbors recycle right.

All these education efforts focus on the top issues seen in recycling carts and containers during the annual audit and firsthand by drivers, making annual analysis key to helping residents recycle right. Results of our annual audit showed that both food and liquid residue and bagged recycling made up most of the non-recyclable items found in recycling containers. That makes these issues a top priority for recycling education efforts into FY23.

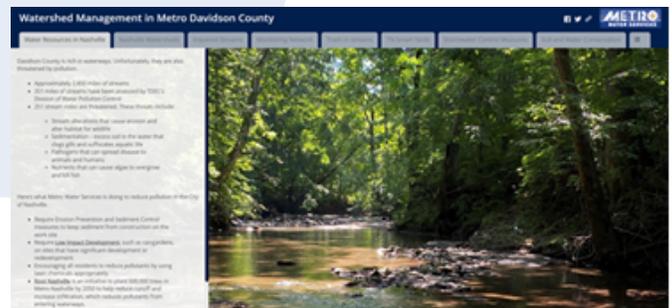


WATERSHED MANAGEMENT

The MWS Stormwater division has a section dedicated to watershed management and compliance with the National Pollution Discharge Elimination System (NDPES) permit issued by the state to regulate the storm sewers and stormwater infrastructure.

Urban environments can impact watersheds by introducing pollutants such as pathogens, nutrients, sediments, and others. In an effort to responsibly target and reduce or eliminate these pollutants, MWS has implemented several programs to study, address, and communicate the impacts of urban environments and development on our creeks, streams, and rivers.

Education and community engagement are key to healthier watersheds. That is why we created a watershed management website with an ESRI ArcGIS online application to highlight the many programs facilitated by MWS and to inform the public of available watershed management resources. The site contains information about stream impairments and sampling programs. Additionally, users can utilize interactive maps, locate nearby streams, and identify specific watersheds by searching specific addresses. Users can also get information on other programs such as Low Impact Development, Clean Water Nashville, Root Nashville, Soil Conservation, and more. Learn more about watershed management by visiting: arcg.is/09Si5r.



EXTERNAL OUTREACH

As Nashville continues to expand and the needs of the public evolve, it is important that Metro Water Services remains connected with our community. One effective way we accomplish this is through community engagement and outreach. Last year, through social media; Facebook Live town halls; and in-person events: tours, Citizen's Water Academy, and more - MWS was able to effectively reach over **6,900** residents! Allowing us to build relationships and trust with residents, while also educating them about their MWS facilities and programs.

Social media has been an invaluable tool for MWS to reach, engage with, and educate Nashvillians about everything water and waste services. Through Twitter, Facebook, Instagram, Nextdoor, and LinkedIn, MWS can share timely information about events, construction projects, and community initiatives, as well as provide opportunities for residents to ask questions and voice their concerns.

One way residents have been able to learn and be heard is through our Facebook Live Town Halls. These have been a great way for MWS to open a dialogue about topics ranging from appropriate recycling to a brief look at how some of our facilities operate. During these Facebook Live Town Halls, residents not only have an opportunity to learn, but they can also provide feedback and ask questions about important issues.

Additionally, our facility tours have provided curious residents with an opportunity to learn more about their water and waste services and have helped to cultivate an atmosphere of transparency and trust. Not only can citizens get a better understanding of the services their local government provides, but they can also better understand about the process behind these services. With more Nashvillians informed about MWS services, we can work together to create a better future and improve the quality of life for everyone.

130
events

34
tours

6,941
people

11
FB Lives

EXTRA, EXTRA READ ALL ABOUT IT

Throughout the last few years and all the growth and change Nashville has seen, communication has always been on the forefront of Metro Water Services (MWS)' mission. We at MWS strive every day to accomplish the ordinary in extraordinary ways. While the big projects and happy announcements always get their due, we began to wonder—what about the little things? What about the day-to-day?

Beginning this year, we have begun to release a quarterly external newsletter, the **Community Pipeline**. This newsletter is our way of keeping you up to date with the latest and greatest as well as the everyday wonders at MWS.

Do you have any friends, family, or neighbors who you think would be interested in receiving this quarterly update? Send them to bit.ly/MWSQuarterly or have them email us at MWSCommunications@groups.nashville.gov

**Around
3,000
recipients**

**4 editions
a year**

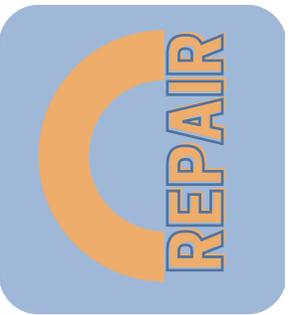
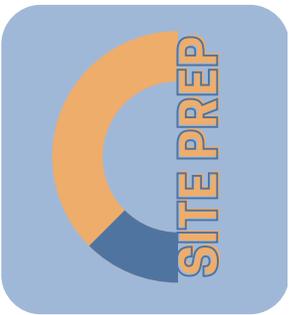




INFRASTRUCTURE

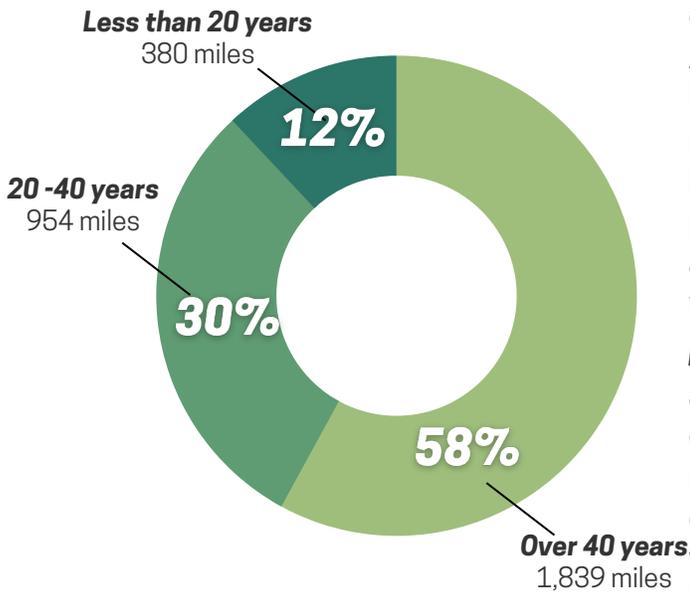
Water main breaks can occur at any time but the chances of a main break increases during periods of extreme temperatures like winter. Over the past 5 years, Metro Water Services has averaged **450** main breaks a year with most occurring during the winter months.

Over the course of fiscal year 2022, crews responded to **341** breaks, with **80** occurring in January. These breaks have the potential to affect water service to hundreds of customers as well as creating hazardous road conditions for motorists. Therefore, MWS has a Winter Emergency Plan and our staff and equipment are prepared for winter weather and the probable increase in breaks.



A simple water main break can be completed in six to eight hours, but large or complicated repairs may take several days or even a week. Conditions such as weather and daylight may affect repair times as well. Often emergency repair crews are working overnight and are dealing with harsh conditions such as freezing temperatures, rain and/or snow.

Metro Water Services considers your health and safety in all that we do. If you ever suspect there may be a main break in your area, or experience a loss of pressure or water, check our Outage Map at bit.ly/MWSOutageMap to view breaks currently being investigated or actively repaired. If you do not see a reported outage, please report yours to hub.nashville.gov



Age of System

About **25%** of our water system is over 70 years old, which is considered the useful life of a pipe. Age isn't the only reason we would replace a pipe, but it is a good indicator of where we might find issues. Because we have so many pipes that would be up for consideration for replacement, we have a program called WIR that we use to identify, rank and fund these projects.

WIR stands for **water infrastructure rehabilitation**. After projects are identified, they are then ranked based off criteria such as area characteristics (critical customers in area, area under construction), system characteristics (water quality issues, low fire flows, system strength), and water main characteristics (age of pipe, break history, evidence of corrosion, poor C-factor, material pipe problem). In our WIR program, we currently have around **50** projects identified, **13** projects in design, and **2** in construction.

The water and sewer adjustments in 2019 included a funding mechanism for both WIR and its sewer counterpart, SIR (sewer infrastructure rehabilitation), which represents a **10%** charge for the water and sewer portions of your bill. This aspect of the bill makes these programs possible and allows us to perform the necessary assessment and maintenance to keep our infrastructure safe, therefore keeping your water and our environment safe.

Operations

98.92 Million Gallons Average Daily Water Delivery

130.0 Million Gallons Peak Water Delivery

182.4 Million Gallons Average Daily Sewage Treatment

400.8 Million Gallons Peak Sewage Treatment

Engineering

17.9 Miles of New Water Main

15.4 Miles of New Sewer Main

2,855 Sewer Customers

Urban Forestry

1,430 Trees Planted

1,268 Trees Watered

584 Trees Maintained

NPDES

101 Illicit Discharge Investigations

34 Stream Adoptions

1,688 Stormwater Control Measure Inspections

By the Numbers

The data presented here reflects the initiatives and hard work delivered by Metro Water Services to maintain a high quality water program.

FINANCIALS

This summary is intended to serve as an introduction to Metro Water Services basic financial statements. The basic financial statements consist of the Statements of Net Position, the Statements of Revenue, Expenses, and Changes in Net Position and the Statements of Cash Flows.

Metro Water Services collects its primary revenues from charges for water and sewerage services provided to customers. Activities are funded entirely from revenues generated from its operations, with no tax revenues from the Government. All revenues are required to be used for the benefit of the ratepayers.

As of June 30, 2022, the Utility served approximately **220,000** water accounts and **223,000** sewer accounts. In January of 2022, water and sewer rates were increased for the third consecutive year. Ordinance BL2019-045, which was adopted by the Metropolitan Nashville Davidson County Council on December 10, 2019, outlines the rate structure and four annual rate increases followed by increases based on the annual consumer price index. Rates were increased by 3% in January and rates payers can expected another 3% increase in January of 2023.

As of June 30, 2022, assets and deferred outflows of the Department were \$3.2 billion and exceeded liabilities and deferred inflows by \$1.6 billion (total net position). In 2022, the rate increase and continued economic development positively impacted operating revenues of \$335.4 million, an increase of \$25.5 million as compared to 2021. Operating expenses for 2022 were \$237 million, an increase of \$40.5 million from 2021 mainly caused by three factors: increases in contractual services, increases in personnel costs, and finally increases in depreciation expense. Contractual Services increased by \$18.9 million due to current economic conditions and a system adjustment resolving works in progress transfers. The increase in personnel services was due to a recognized decrease in expense related to net pension liability and increases in employee salaries realized beginning July 1, 2021. Finally, the Department capitalized \$137.2 million in assets during fiscal year 2021, the depreciation from which greatly contributed to increased annual expense of \$11.3 million to \$98.9 million in fiscal year 2022. The Department ended 2022 \$14.7 million under its operating budget of \$152.7 million.

On October 14, 2021, the Metropolitan Government of Nashville Davidson County, Tennessee issued Water & Sewer Revenue Bonds, Series 2021A&B. Series 2021A (Green Bonds) included a principal amount of \$377,520,000 for the purpose of refunding commercial paper and financing Consent-Decree-related projects; and Series 2021B (Green Bonds) included a principal amount of \$232,075,000 for the purpose of refunding Series 2013 Bonds. In addition, on September 28, 2021, the Department completed a defeasance of \$24.8 million for the Subordinate Lien 2012 Series Bonds.

Statements of Net Position

Condensed Financial Information as of

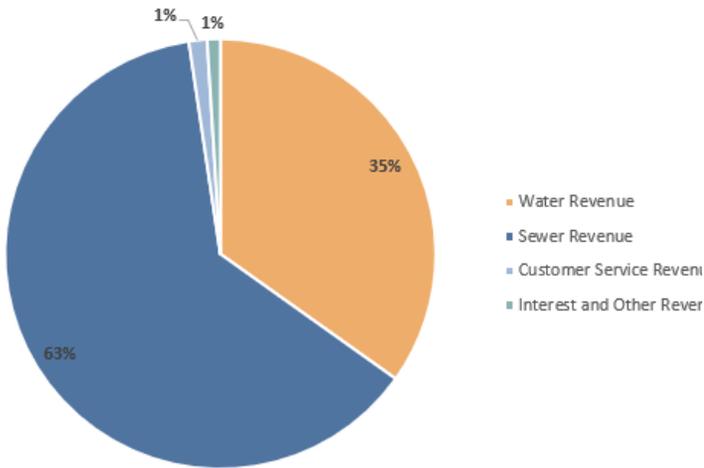
	June 30, 2022	
	2022	2021
Total current assets	\$ 186,117,621	\$ 217,010,951
Total capital and other non current assets	2,974,731,163	2,582,550,652
Total assets	3,160,848,784	2,799,561,603
Deferred charge on refunding	19,732,262	1,062,031
Pensions	12,317,147	6,932,552
Total deferred outflows of resources	32,049,409	7,994,583
Total current liabilities	229,700,774	317,212,187
Total noncurrent liabilities	1,364,180,038	999,332,321
Total Liabilities	1,593,880,812	1,316,544,508
Pensions	21,404,169	45,473,875
Total deferred inflows of resources	21,404,169	45,473,875
 Total net Position	 <u>\$ 1,577,613,212</u>	 <u>\$ 1,445,537,803</u>

Statement of Revenue, Expense, and Changes in Net Position

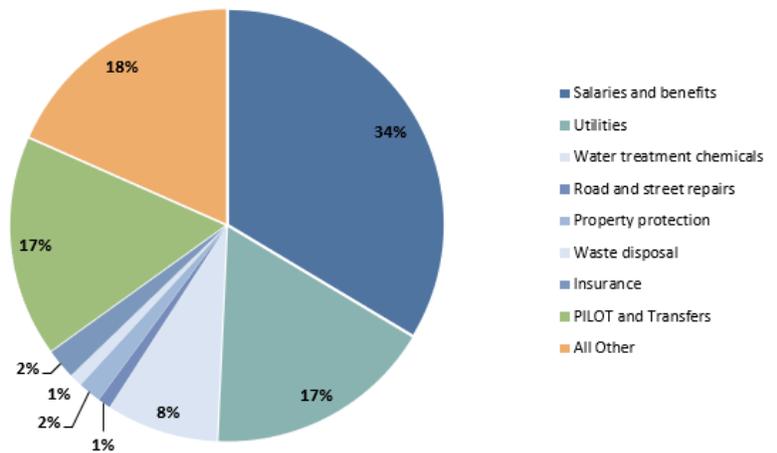
June 30, 2022

	2022	2021
Operating revenues	\$ 335,440,141	\$ 309,956,808
Depreciation (expense)	(98,881,450)	(87,628,485)
Other operating (expenses)	(138,150,123)	(108,824,451)
Operating income	98,408,568	113,503,872
Investment income	2,402	596,068
Interest expense	(20,364,579)	(37,082,139)
Other	(2,718,536)	883,273
Capital grants and contributions	52,787,622	46,908,906
Transfers to other funds of the Metropolitan Government, net	(10,475,446)	(13,557,920)
Change in net Position	117,682,129	111,264,834
Net Position, beginning of year	1,459,931,083	1,334,272,969
Net Position, end of year	<u>\$ 1,577,613,212</u>	<u>\$ 1,445,537,803</u>

2022 Revenues



Expenses 2022



In 2009, the Metropolitan Government established a Stormwater Division of the Department as a stand-alone enterprise fund with its own set of service fees, which are now an itemized part of the water bill. Stormwater operations is funded solely through stormwater fees and any associated bonds supported by those fees. This financial statement does not include stormwater.

On July 1, 2020, the Department assumed management of the Metro Nashville District Energy System (DES). DES delivers heat, ventilation, and air conditioning (HVAC) to buildings in the downtown corridor through a series of closed-circuit pipe systems carrying chilled water and steam. DES activities are funded solely from fees/rates from the Customers of the system and revenues generated from the general government.

On July 1, 2021, the Department assumed management of the Metropolitan Government of Nashville Davidson County Waste Services activities which includes resident recycling and waste collection in the Urban Services District, commercial trash collection in the downtown corridors, county-wide refuse collection convenience centers and drop off points, and oversight of the county’s closed landfills. Waste Services activities are funded solely from Solid Waste fees and revenues generated from the general government.

Please note that information is a summary and does not contain all of the information available in the full Comprehensive Financial Annual Report (CAFR) at www.nashville.gov/Finance/Financial-Operations/Comprehensive-Financial-Reports.aspx.



Water, Sewer, & Stormwater

615.862.4600

mws.dispatchers@nashville.gov
1700 3rd Ave N | 8a-5p T & Th

Waste Services

615.862.5000 | 311

Hub.Nashville.gov

Public Records Requests

[www.nashville.gov/departments/
metro-clerk/public-records-request](http://www.nashville.gov/departments/metro-clerk/public-records-request)

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